

**1. Amendments to the Claims:**

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Currently Amended) A method, comprising: of  
applying watermarks  $WM_1...WM_k...WM_N$  to sections of  $1...k...N$  of digital content on a recording medium having an identification number (CDID); ~~comprising~~  
combining numerical values representing the CDID, N and k in accordance with a concatenated hashing function to derive a numerical value for  $WM_i[[]]$ ; and  
applying the numerical value for  $WM_i$  to section i, where i is selectively each of  $1...N$ .
2. (Original) A method of checking the watermark of section j of read digital content having watermarks applied in accordance with the method of claim 1 comprising determining the numerical values of CDID, j and N from the read digital content, determining the watermark  $WM_{ja}$  actually read from section j, combining the determined numerical values of CDID, j and N by using the same hashing function that is used to derive  $WM_i$  to derive a digital signal for the watermark  $WM_{jr}$  that should be read from section j, and comparing the digital signal for the watermark  $WM_{jr}$  that should be read from section j with an indication of the numerical value for the watermark  $WM_{ja}$  actually read from section j.
3. (Original) The method of claim 2 wherein CDID is read directly from the medium and  $WM_{jr}$  that should be read from section j is derived from  $H(CDID \diamond N \diamond j)$ , where H is the hashing function and  $\diamond$  is the concatenation of numbers.
4. (Original) The method of claim 2 wherein the correctness of the recorded CDID is

determined by performing a calculation on value  $WM_{j_a}$  actually read from section j.

5. (Original) The method of claim 4 wherein  $H(CDID)$  is determined by subtracting  $H(N_j)$  from the value of  $WM_{j_a}$  actually read from section j.

6. (Original) The method of claim 5 wherein the value that should be read from section j is calculated in accordance with  $H(N \hat{\diamond} j)$  to derive a first hashed function, and combining the first hashed function with the determined value of an invertible 2 argument operation that is hashed by hashing function H.

7. (Original) The method of claim 6 wherein the invertible 2 argument operation is an exclusive or function.

8. (Original) The method of claim 6 wherein the invertible 2 argument operation is a modular addition function.

9. (Original) A recording medium assigned with a numerical ID number (CDID), the medium including digital content, at least some of the digital content having watermarked sections  $1 \dots i \dots N$ , the watermark in section i having a numerical value in accordance with a hashed concatenated function of CDID, N and i.

10. (Currently Amended) The medium of claim [[7]]9 wherein the digital content includes media content.

11. (Currently Amended) An  $[[A]]$  apparatus for applying adapted to apply watermarks  $WM_1 \dots WM_k \dots WM_N$  to sections  $1 \dots k \dots N$  of a recording medium adapted to have an identification number (CDID) and to include digital content in at least sections  $1 \dots k \dots N$ , the apparatus comprising a processor arrangement for combining for each of  $1 \dots k \dots N$  digital signals indicative of CDID, k and N, the signals indicative of CDID, k and N being combined in accordance with a concatenated hashing function to derive a

hashed concatenated output signal and a write unit for applying the hashed concatenated output signal to the recording medium.

12. (Currently Amended) An ~~[[A]]~~apparatus for checking adapted to check the validity of digital watermarks in sections  $1 \dots k \dots N$ , of a digital recording medium having an identification number (CDID) and digital content recorded in at least sections  $1 \dots j \dots N$  of the medium, the apparatus comprising a read unit for reading the digital content and the watermarks and for deriving digital signals indicative thereof, a processor arrangement connected to be responsive to the read unit for determining (a) the numerical value of bits  $WM_{jr}$  in watermarks that should be recorded in at least some of sections  $1 \dots j \dots N$  in accordance with a hashed function of concatenated values of a determined value of CDID combined with  $H$ ,  $j$  and  $N$ , (b) the numerical values of bits  $WM_{ja}$  actually read from the medium, and (c) the relative values of  $WM_{jr}$  and  $WM_{ja}$ .

13. (Original) The apparatus of claim 11 wherein the processor arrangement is arranged to respond to CDID as read from the medium and for determining  $WM_{jr}$  and  $H(CDID \diamond N \diamond j)$ , where  $H$  is the hashing function and  $\diamond$  is the concatenation of numbers.

14. (Original) The apparatus of claim 12 wherein the processor arrangement is arranged for calculating the value of CDID in response to the value  $WM_{ja}$  actually read from section  $j$ .

15. (Original) The apparatus of claim 14 wherein the processor arrangement is arranged to respond to CDID as read from the medium and for determining  $WM_{jr}$  as actually read from section  $j$ .

16. (Original) The apparatus of claim 15 wherein the processor arrangement is arranged to determine CDID by subtracting of  $H(N \diamond k)$  from the value of  $WM_{ja}$  actually read from section  $j$ .

17. (Original) The apparatus of claim 16 wherein the processor arrangement is arranged to (a) calculate the value that should be read from section j in accordance with  $H(N \diamond j)$  to derive a first hashed function and (b) combine the first hashed function with the determined value of an invertible 2 argument operation that is hashed by hashing function H.

18. (Original) The apparatus of claim 17 wherein the invertible 2 argument operation is an exclusive or function.

19. (Original) The method of claim 1 wherein the number of bits in the numerical value of  $WM_k$  is in the range of 20 to 24.

20. (Original) The method of claim 2 wherein the number of bits in the numerical value of  $WM_k$  is in the range of 20 to 24.

21. (Original) The medium of claim 9 wherein the numerical value is represented by 20 to 24 bits.

22. (Currently Amended) The ~~method~~ apparatus of claim 11 wherein the number of bits in the numerical value of  $WM_k$  is in the range of 20 to 24.

23. (Original) The apparatus of claim 12 wherein the number of bits in the numerical value of  $WM_k$  is in the range of 20 to 24.